Supplementary data

Substance use during imprisonment in low- and middle-income countries

Web Appendix 1. General search string

Prison condition:

Prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice"

Epidemiological studies:

Epidemiology (Subject Heading) OR prevalence OR incidence

Mental health outcome:

Mental Disorders (Subject Heading) OR Substance-Related Disorders (Subject Heading) OR psychiatr* OR

psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*

Limit: 1987 to March 2017

SOURCES (11)		
Prison	Epidemiology	Mental health
Applied Social Sciences Index a	and Abstracts (ASSIA) (24/3/201	(516)*
psychiatr* OR psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject* (227,050)	prevalence OR incidence OR su.Exact("epidemiology") (30,037)	(su.Exact("substance-related disorders") OR su.Exact("substance abuse" OR "substance abuse disorders")) OR (psychiatr* OR psycholog* OR smok* OR alcohol* OR substance OR drug OR addict*
CAR Abstracts 1072 to 2017 Week	11 (24/3/2017) (225)*	OR inject*) (17,392)
(Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp (2,003)	epidemiology/ or (prevalence or incidence).mp. (422,950)	mental disorders/ or substance abuse/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (792,500)
Criminal Justice Database (24/	(3/2017) (607)*	
all(Prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice") (135,926)	all(prevalence OR incidence) OR su.Exact("epidemiology") (13,226)	su.Exact("mental disorders") OR su.Exact("substance- related disorders") OR all(psychiatr* OR psycholog*

Web Table 1. Database searches

		OR smok* OR alcohol* OR
		substance OR drug OR
		addict*OR inject*) (149,574)
Embase 1980 to 2017 Week 12 (24/	3/2017) (3518)*	
(Prison* or imprison* or	epidemiology/ or (prevalence	mental disease/ or substance
sentence* or remand* or jail*	or incidence).mp. (1,863,770)	abuse/ or "substance use"/ or
or correctional or criminal		(psychiatr* or psycholog* or
justice).mp. (55,127)		smok* or alcohol* or substance
		or drug or addict* or
		inject*).mp. (9,217,897)
Global Health 1973 to 2017 Week	1 (24/3/2017) (857)*	
(Prison* or imprison* or	epidemiology/ or (prevalence	mental disorders/ or substance
sentence* or remand* or jail*	or incidence).mp. (298,177)	abuse/ or (psychiatr* or
or correctional or criminal		psycholog* or smok* or
justice).mp (3,264)		alcohol* or substance or drug
		or addict* or inject*).mp.
		(503,739)
International Bibliography of	the Social Sciences (IBSS) (24/3/2	2017) (1098)*
Prison* OR imprison* OR	su.Exact("epidemiology") OR	su.Exact("mental disorders")
sentence* OR remand* OR	(prevalence OR incidence)	OR su.Exact(substance abuse
jall [*] OR correctional OR "oriminal justice" (27,180)	(21,074)	(newshistr* OP newsholog* OP
criminal justice (37,180)		smok* OR alcohol* OR
		substance OR drug OR addict*
		OR inject*) (172 839)
LILACS (4/4/2017) (41)*		(1/2,007)
prison ^{\$} OR imprison ^{\$} OR	epidemiolog ^{\$} OR prevalence	mental OR substance OR
sentence\$ OR remand\$ OR	OR incidence [Words]	psychiatr\$ OR psycholog\$ OR
jail\$ OR correctional OR	(108 772)	smok\$ OR alcohol\$ OR
5		
criminal justice [Words]	(100,172)	substance OR drug OR
criminal justice [Words] (1362)	(100,112)	substance OR drug OR addict\$ OR inject\$ [Words]
criminal justice [Words] (1362)	(100,112)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139)
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present ((100,772) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)*	substance OR drug OR addict\$ OR inject\$ [Words] (136,139)
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>Sons, Ovid MEDLINE(R) Daily and</i>
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail*	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (1 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>Tons, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512)	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance
criminal justice [Words] (1362) MEDLINE (<i>R</i>) <i>Epub Ahead of Print</i> <i>Ovid MEDLINE</i> (<i>R</i>) <i>1946 to Present</i> (7 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512)	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>fons, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (((Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512)	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016)
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)*	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016)
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (1 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>fons, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders")
criminal justice [Words] (1362) MEDLINE (<i>R</i>) Epub Ahead of Print Ovid MEDLINE(<i>R</i>) 1946 to Present (1 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93) * prison* OR imprison* OR sentence* OR remand* OR	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ons, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (1 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806)	(100,112) <i>In-Process & Other Non-Indexed Citati</i> 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR
criminal justice [Words] (1362) MEDLINE (<i>R</i>) <i>Epub Ahead of Print</i> <i>Ovid MEDLINE</i> (<i>R</i>) <i>1946 to Present</i> (7 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806)	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR substance OR drug OR addict*
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806)	(100,112) , In-Process & Other Non-Indexed Citation 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) ons, Ovid MEDLINE(R) Daily and Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*) (36,460)
criminal justice [Words] (1362) MEDLINE (<i>R</i>) <i>Epub Ahead of Print</i> <i>Ovid MEDLINE</i> (<i>R</i>) <i>1946 to Present</i> (7 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806) PsycINFO <i>1806 to March Week 3 2</i>	(100,112) <i>In-Process & Other Non-Indexed Citati</i> 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750) <i>D17</i> (24/3/2017) (1620)*	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) ons, Ovid MEDLINE(R) Daily and Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*) (36,460)
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (1 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806) PsycINFO 1806 to March Week 3 2 (Prison* or imprison* or	(100,112) , In-Process & Other Non-Indexed Citati 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750) 017 (24/3/2017) (1620)* epidemiology/ or (prevalence prior incidence)	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) <i>ions, Ovid MEDLINE(R) Daily and</i> Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*) (36,460) mental disorders/ or "substance
criminal justice [Words] (1362) MEDLINE(R) Epub Ahead of Print Ovid MEDLINE(R) 1946 to Present (2 (Prison* or imprison* or sentence* or remand* or jail* or correctional or criminal justice).mp. (46,512) PAIS Index (3/4/2017) (93)* prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (17,806) PsycINFO 1806 to March Week 3 2 (Prison* or imprison* or sentence* or remand* or jail*	 (100,112) <i>In-Process & Other Non-Indexed Citati</i> 24/3/2017) (2406)* Epidemiology/ or (prevalence or incidence).mp. (1,234,033) su.Exact("epidemiology") OR (prevalence OR incidence) (6,750) <i>D17</i> (24/3/2017) (1620)* epidemiology/ or (prevalence or incidence).mp. [mp=title, abstract heading word table of 	substance OR drug OR addict\$ OR inject\$ [Words] (136,139) ons, Ovid MEDLINE(R) Daily and Mental Disorders/ or Substance-Related Disorders/ or (psychiatr* or psycholog* or smok* or alcohol* or substance or drug or addict* or inject*).mp. (4,241,016) su.Exact("mental disorders") OR su.Exact("substance abuse") OR (psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*) (36,460) mental disorders/ or "substance use disorder"/ or (psychiatr* or psycholog* or smok* or

or correctional or criminal justice).mp. (73,554)	contents, key concepts, original title, tests & measures] (149,748)	alcohol* or substance or drug or addict*OR inject*).mp. (1,176,019)
Scopus (24/3/2017) (4,580)*		
TITLE-ABS-KEY (prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice") (141,178)	(TITLE-ABS-KEY (epidemiolog* OR prevalence OR incidence) (2,158,208)	TITLE-ABS-KEY (mental OR substance OR psychiatr* OR psycholog* OR smok* OR alcohol* OR substance OR drug OR addict* OR inject*) (10,794,492)
Social Services Abstracts (24/3)	/2017) (197)*	
Prison* OR imprison* OR sentence* OR remand* OR jail* OR correctional OR "criminal justice" (6,532)	su.Exact("epidemiology") OR (prevalence OR incidence) (8,922)	su.Exact("substance-related disorders" OR "substance abuse" OR "substance abuse disorders") OR su.Exact("mental disorders") OR (psychiatr* OR psycholog* OR smok* OR alcohol* OR substance OR drug OR addict*

*Number after discarding duplicates

Web Table 2. Grey Literature

SOURCES (2)		
Prison	Epidemiology	Mental Health
Open Grey (03/4/2017) (25)†		
prison* OR imprison* OR	epidemiolog* OR prevalence	mental OR substance OR
sentence* OR remand* OR	OR incidence (14,287)	psychiatr* OR psycholog*
jail* OR correctional OR		OR smok* OR alcohol* OR
"criminal justice" (3587)		substance OR drug OR
		addict* OR inject* (80,467)
ProQuest Dissertations & Thes	ses Global (3/4/2017) (375)*	
all(prison* OR imprison* OR	all(prevalence OR incidence)	su.Exact("drug abuse" OR
sentence* OR remand* OR	OR su.Exact("epidemiology")	"drug use" OR "mental
jail* OR correctional OR	(68,101)	disorders") OR all(psycholog*
"criminal justice") (33,981)		OR smok* OR alcohol* OR
		substance OR drug OR addict*
		OR inject*) (593,744)

*Number after discarding duplicates

†Hits were not exported in reference manager



Web Figure 1. PRISMA Flow-Chart of studies identified, screened and included in the systematic review on the prevalence of substance use in prison populations in low- and middle-income countries between 1987 and 2017.



Web Figure 2. Map of low- and middle-income countries with data reporting substance use of imprisoned people by WHO-regions. Light grey are countries that have been in the high-income category since the implementation of the categories in 1987. Dark grey represents low- and middle-income countries without identified data.

Web Table 3. Meta-regression analyses of study characteristics and the prevalence of nicotine use among people who are imprisoned in low- and middle-income countries.

Substance		Nicotine use							
Prevalence period	Befo	ore impris	onment		During imprisonment				
	Coefficient	95%	6 CI	Р	Coefficient	95%	CI	Р	
	(ß)	lower	upper		(ß)	lower	upper		
Sex	0.209	0.015	0.403	0.036	-0.086	-0.353	0.181	0.510	
Age	-0.009	-0.044	0.027	0.612	0.001	-0.032	0.035	0.927	
Sample size	2.94e-06	- 0.0001	0.0001	0.930	0.00001	-0.0001	0.0001	0.844	
Non-response rate	0.001	-0.003	0.005	0.582	0.003	-0.001	0.007	0.167	
Before imprisonment	n.a.				0.00006	-0.00013	0.00025	0.490	
WHO-regions (Africa Reference category)									
Americas	0.086	-0.129	0.300	0.408	0.327	0.035	0.619	0.030	
Eastern Mediterranean	0.210	-0.012	0.432	0.062	0.277	-0.046	0.600	0.068	
Europe	0.278	0.082	0.474	0.009	0.484	0.234	0.734	0.001	
South East Asia	0.088	-0.160	0.336	0.463	0.286	-0.027	0.600	0.071	
Western Pacific	0.186	-0.049	0.420	0.112	0.250	-0.048	0.941	0.074	
М	ultivariate me	ta-regress	ion analy	ses retai	ning significa	nt variables			
Sex	0.198	0.000	0.386	0.050					
Europe	0.236	0.069	0.402	0.009					

Web Table 4. Meta-regression analyses of study characteristics and the prevalence of alcohol use among people who are imprisoned in low- and middle-income countries.

Substance		Alcohol use								
Prevalence period	Before imprisonment				risonment During imprisonment					
	Coefficient	959	% CI	Р	Coefficient	95%	o CI	Р		
	(ß)	lower	upper		(ß)	lower	upper			
Sex	0.166	-0.031	0.364	0.094	0.145	-0.320	0.612			
Age	-0.003	-0.043	0.037	0.879	-0.016	-0.051	0.019	0.345		
Sample size	-0.000013	- 0.0001	0.00005	0.680	-0.00001	- 0.00008	0.00006	0.707		
Non-response rate	0.003	-0.002	0.008	0.174	-0.002	-0.010	0.005	0.546		
Before imprisonment	n.a.				-0.00001	- 0.00006	0.00005	0.750		
WHO-regions (Africa Reference category)										
Americas	-0.012	-0.159	0.134	0.864	0.174	-0.089	0.437	0.178		
Eastern Mediterranean	-0.278	-0.476	-0.079	0.009	-0.041	-0.517	0.435	0.855		
Europe	0.151	-0.002	0.303	0.052	0.037	-0.225	0.299	0.765		
South East Asia	-0.179	-0.420	0.063	0.137	-0.100	-0.557	0.357	0.644		
Western Pacific	0.081	-0.107	0.269	0.378	-0.009	-0.498	0.481	0.970		

Web Table 5. Meta-regression analyses of study characteristics and the prevalence of illicit drug use among people who are imprisoned in low- and middle-income countries.

Substance		Illicit drug use								
Prevalence period	Bef	ore imprise	onment		D	ouring impro	isonment			
	Coefficient	95%	CI	Р	Coefficient	959	% CI	Р		
	(B)	lower	upper		(ß)	lower	upper			
Sex	0.058	-0.095	0.211	0.449	-0.041	-0.254	0.172	0.693		
Age	-0.016	-0.048	0.016	0.318	0.003	-0.059	0.064	0.927		
Sample size	-0.000061	0.00012	- 1.22e- 06	0.046	-0.000012	- 0.000099	0.0000751	0.772		
Non-response rate	0.002	-0.0009	0.005	0.193	-0.003	-0.006	0.0006	0.108		
Before imprisonment	n.a.				0.00010	-0.00013	0.00034	0.373		
WHO-regions (Africa Reference category)										
Americas	0.185	-0.050	0.420	0.119	0.216	-0.094	0.527	0.163		
Eastern Mediterranean	0.164	-0.097	0.424	0.213	0.378	-0.028	0.784	0.066		
Europe	-0.095	-0.326	0.137	0.416	0.066	-0.236	0.367	0.653		
South East Asia	-0.161	-0.453	0.131	0.272	Dropped	-	-	-		
Western Pacific	-0.272	-0.567	0.023	0.070	Dropped	-	-	-		

Region and First Author, Year (Reference No.)	Country	Sex		PR (95% CI)
Africa				
Kinyanjui, 2013 (24)	Kenya	Mixed	₩	5.1 (3.3, 7.7)
Adesanya, 1997 (44)	Nigeria	Male	.	6.6 (4.5, 9.5)
Amdzaranda, 2009 (23)	Nigeria	Male	→	6.9 (4.6, 10.4)
Jaquet, 2016 (40)	Togo	Male	_ 	7.5 (5.2, 10.8)
Jaquet, 2016 (40)	Senegal	Male	- * - i	7.5 (5.1, 10.8)
Diendere, 2011 (57)	Burkina Faso	Male	_ _ _!	12.7 (9.4, 16.9)
Vaz, 1995 (66)	Mozambique	Female		16.7 (9.0, 28.7)
Vaz, 1995 (66)	Mozambique	Male	I _ ⊕ _	29.5 (27.1, 32.1)
Subtotal	-			10.6 (4.6, 18.8)
Americas				
Nevarez-Sida, 2012 (53)	Mexico	Mixed		5.4 (4.3, 6.8)
Bautista-Arredondo, 2015 (27)	Mexico	Female	_ ∎ i	10.0 (7.7, 12.9)
De Carvalho, 2006 (46)	Brazil	Female		15.2 (10.0, 22.5)
Bautista-Arredondo, 2015 (27)	Mexico	Male	*	23.8 (21.9, 25.7)
Belaunzaran-Zamudio, 2017 (47)	Mexico	Mixed	i •	25.8 (24.0, 27.7)
De Carvalho, 2006 (46)	Brazil	Male	*	27.6 (25.6, 29.6)
Reed. 2009 (56)	Brazil	Female		32.1 (27.6, 37.0)
Güereña Burgueño, 1992 (34)	Mexico	Male		33.9 (29.5, 38.6)
Ouitete, 2012 (31)	Brazil	Female		41.8 (33.8, 50.3)
Puga. 2017 (48)	Brazil	Male	I i +	45.9 (44.1, 47.8)
Subtotal				24.9 (16.5, 34.3)
Eastern Mediterranean				
Iqbal, 2012 (43)	Pakistan	Male	← !	3.0 (1.0, 8.5)
Khan, 2009 (32)	Pakistan	Male	_ _	28.0 (22.8, 33.9)
UNODC, 2010 (58)	Afghanistan	Male	i	28.3 (20.1, 38.2)
Subtotal	C			17.7 (3.8, 38.3)
Europe				
RMCDD, 2011 (60)	Romania	Male	•	0.8 (0.5, 1.3)
Elekes, 1997 (41)	Hungary	Male	•	2.0 (1.3, 3.1)
Elekes, 2004 (61)	Hungary	Male	<u>₩</u>	6.2 (4.6, 8.4)
Weilandt, 2007 (50)	Armenia	Male	★	7.4 (5.5, 9.9)
Sieroslawski, 2007 (63)	Poland	Male		18.3 (16.3, 20.6)
Sieroslawski, 2001 (62)	Poland	Male	-	21.3 (19.0, 23.7)
Snikere, 2010 (51)	Latvia	Mixed	*	24.2 (22.4, 26.2)
Snikere, 2003 (64)	Latvia	Mixed	I ⊕	28.0 (26.4, 29.7)
Moller, 2008 (65)	Kyrgyzstan	Male	-	5 5.1 (52.0, 58.1)
Subtotal				15.1 (6.0, 27.4)
Overall ($I^2 = 99\%$, $P < 0.001$)				17.1 (12.0, 22.9)
			0 10 20 30 40 50 Prevalence Rate	60

Web Figure 3. Prevalence rates and random effects meta-analyses of cannabis use during imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. CI, confidence interval; PR, prevalence rate.

Web Table 6. Meta-regression analyses of study characteristics and the prevalence of cannabis use among people who are imprisoned in low- and middle-income countries.

Substance		Cannabis use						
Prevalence period	Before imprisonment				During imprisonment			
	Coefficient	959	% CI	Р	Coefficient	95	% CI	Р
	(ß)	lower	upper		(ß)	lower	upper	
Sex	-0.157	-0.338	0.024	0.086	-0.043	-0.206	0.120	0.589
Age	-0.014	-0.069	0.041	0.605	-0.003	-0.024	0.018	0.779
Sample size	-	-	0.00002	0.161	0.0000525	-9.43e-	0.0001144	0.094
	0.0000431	0.0001				06		
Non-response rate	0.004	-	0.009	0.056	0.002	-0.002	0.006	0.396
		0.0001						
Before imprisonment	n.a.				0.00019	0.00013	0.00024	<0.001
WHO-regions (Africa								
Reference category)								
Americas	0.193	-0.005	0.391	0.056	0.145	0.007	0.284	0.041
Eastern	Dropped	-	-	-	0.087	-0.127	0.304	0.405
Mediterranean								
Europe	0.009	-0.189	0.206	0.928	0.067	-0.073	0.207	0.331
South East Asia	-0.185	-0.541	0.171	0.291	Dropped	-	-	-
Western Pacific	Dropped	-	-	-	Dropped	-	-	-
М	ultivariate me	eta-regres	sion analys	ses retain	ning significar	nt variables		
Before imprisonment					0.00018	0.00012	0.00023	<0.001
Americas					0.036	-0.054	0.126	0.404



Web Figure 4. Prevalence rates and random effects meta-analyses of cocaine use during imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. CI, confidence interval; PR, prevalence rate.

Web Table 7. Meta-regression analyses of study characteristics and the prevalence of cocaine use among people who are imprisoned in low- and middle-income countries.

Substance				Coca	uine use				
Prevalence period	Be	Before imprisonment			Before imprisonment During imprisonment				
	Coefficient	95%	6 CI	Р	Coefficient	95	% CI	Р	
	(ß)	lower	upper		(ß)	lower	upper		
Sex	-0.230	-0.407	-0.053	0.013	-0.032	-0.158	0.094	0.600	
Age	-0.003	-0.058	0.053	0.918	-0.009	-0.028	0.011	0.341	
Sample size	-0.00003	-	0.00005	0.464	0.0000365	-7.80e-	0.0000808	0.100	
		0.00012				06			
Non-response rate	0.0003	-0.005	0.006	0.898	0.0004	-0.003	0.003	0.787	
Before imprisonment	n.a.				0.00016	0.00009	0.00022	<0.001	
WHO-regions									
(Africa Reference									
category)									
Americas	0.384	0.292	0.476	<0.001	0.103	-0.041	0.246	0.150	
Eastern	Dropped	-	-	-	-0.003	-0.244	0.238	0.979	
Mediterranean									
Europe	0.105	0.012	0.197	0.029	0.014	-0.132	0.160	0.843	
South East Asia	Dropped	-	-	-	Dropped			-	
Western Pacific	Dropped	-	-	-	Dropped				
]	Multivariate n	neta-regres	sion analy	ses retaini	ing significant	variables			
Sex	0.011	-0.088	0.112	0.811					
Americas	0.389	0.291	0.488	<0.001					
Europe	0.104	0.010	0.198	0.031					

Region and First Author, Year (Reference No.)	Country	Sex	PR (95% CI)
Africa			
Adesanya, 1997 (44)	Nigeria	Male	0.0 (0.0, 1.0)
Amdzaranda, 2009 (23)	Nigeria	Male	2.3 (1.1, 4.7)
Subtotal			0.5 (0.1, 1.3)
Americas			
Belaunzaran-Zamudio, 2017 (47)	Mexico	Mixed	• 1.6 (1.2, 2.2)
Güereña Burgueño, 1992 (34)	Mexico	Male	2.7 (1.5, 4.7)
Cravioto, 2003 (67)	Mexico	Male	26.4 (23.9, 29.0)
Subtotal			7.5 (0.0, 28.6)
Eastern Mediterranean			
Iqbal, 2012 (43)	Pakistan	Male	4.0 (1.6, 9.8)
Navadeh, 2013 (68)	Iran	Male	● ¹ 4.7 (4.2, 5.4)
UNODC, 2010 (74)	Afghanistan	Male	5.4 (2.3, 12.1)
Khan, 2009 (32)	Pakistan	Male	8.8 (5.9, 13.0)
Zamani, 2010 (59)	Iran	Male	> 66.5 (59.8, 72.6)
Subtotal			I 14.1 (1.3, 36.5)
Europe			
Elekes, 1997 (41)	Hungary	Male	0.5 (0.2, 1.2)
Elekes, 2004 (61)	Hungary	Male	0.7 (0.3, 1.7)
Ravlija, 2014 52)	B&H	Male	► 1.5 (0.8, 2.7)
RMCDD, 2011 (60)	Romania	Male	● 2.2 (1.6, 2.9)
Sieroslawski, 2007 (63)	Poland	Male	2.4 (1.7, 3.4)
Sieroslawski, 2001 (62)	Poland	Male	• 2.5 (1.8, 3.6)
Weilandt, 2007 (50)	Armenia	Male	3 .3 (2.1, 5.2)
Hodzic, 2017 (69)	B&H	Male	3.5 (1.7, 7.0)
Narkauskaite, 2007 (35)	Lithuania	Male	7.2 (5.8, 8.9)
Snikere, 2010 (51)	Latvia	Mixed	11.9 (10.6, 13.4)
Snikere, 2003 (64)	Latvia	Mixed	12.0 (10.9, 13.2)
Moller, 2008 (65)	Kyrgyzstan	Male	> 79.7 (77.1, 82.1)
Subtotal			7.0 (1.4, 16.2)
South-East Asia			
Blogg, 2014 (71)	Indonesia	Female	• 0.0 (0.0, 0.9)
Sawitri, 2016 (70)	Indonesia	Female	0.0 (0.0, 1.3)
Blogg, 2014 (71)	Indonesia	Male	0.7 (0.3, 1.4)
Sawitri, 2016 (70)	Indonesia	Male	8.5 (5.4, 13.2)
Subtotal			1.0 (0.0, 4.0)
Overall ($I^2 = 99.5\%$, $P < 0.001$)			6.2 (2.7, 11.1)
			0 10 20 30 40
			Prevalence Rate

Web Figure 5. Prevalence rates and random effects meta-analyses of opiate use during imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. B&H, Bosnia and Herzegovina; CI, confidence interval; PR, prevalence rate.

Web Table 8. Meta-regression analyses of study characteristics and the prevalence of opiate use among people who are imprisoned in low- and middle-income countries.

Substance	Opiate use							
Prevalence period	Bej	fore impris	sonment			During impr	isonment	
	Coefficient	95%	6 CI	Р	Coefficient	95%	6 CI	Р
	(ß)	lower	upper		(ß)	lower	upper	
Sex	0.019	-0.099	0.138	0.743	0.111	-0.198	0.421	0.466
Age	0.006	-0.007	0.019	0.349	0.006	-0.032	0.043	0.759
Sample size	6.29e-06	- 0.00003	0.00004	0.711	-8.02e-06	- 0.0000872	0.0000712	0.836
Non-response rate	0.003	0.0009	0.005	0.005	-0.0008	-0.004	0.003	0.654
Before imprisonment	n.a.				0.0001843	0.0001167	0.000252	<0.001
WHO-regions (Africa Reference category)								
Americas	-0.0009	-0.139	0.137	0.989	0.092	-0.297	0.480	0.629
Eastern Mediterranean	0.178	0.054	0.301	0.006	0.170	-0.192	0.532	0.341
Europe	0.133	0.021	0.246	0.022	0.096	-0.231	0.422	0.550
South East Asia	0.020	-0.117	0.157	0.769	0.011	-0.361	0.382	0.953
Western Pacific	Dropped	-	-	-	Dropped	-	-	-
	Multivariate r	neta-regres	ssion analy	ses retai	ning significa	nt variables		
Non-response rate	0.0021	0.0005	0.0039	0.013				
Eastern Mediterranean	0.135	0.002	0.267	0.046				
Europe	0.115	-0.005	0.235	0.051				

Web Table 9. Meta-regression analyses of study characteristics and the prevalence of injection drug use among people who are imprisoned in low- and middle-income countries.

Substance		Injection drug use								
Prevalence period	Before imprisonment				During imprisonment					
	Coefficient	95%	CI	Р	Coefficient	95%	CI	Р		
	(B)	lower	upper		(ß)	lower	upper			
Sex	0.002	-0.084	0.088	0.959	0.016	-0.045	0.078	0.580		
Age	0.009	-0.001	0.018	0.075	0.003	-0.005	0.011	0.376		
Sample size	-6.19e-06	- 0.00002	9.87e- 06	0.443	-1.24e-06	-0.000017	0.00002	0.892		
Non-response rate	0.002	-0.004	0.003	0.108	0.0006	-0.0007	0.002	0.337		
Before imprisonment	n.a.				0.00007	-0.00005	0.00020	0.224		
WHO-regions (Africa Reference category)										
Americas	0.094	-0.002	0.191	0.054	0.012	-0.060	0.085	0.727		
Eastern Mediterranean	0.167	0.061	0.277	0.003	0.014	-0.069	0.100	0.727		
Europe	0.195	0.093	0.297	<0.001	0.087	0.010	0.163	0.028		
South East Asia	0.039	-0.087	0.167	0.533	0.013	-0.074	0.101	0.755		
Western Pacific	0.013	-0.079	0.089	0.895	Dropped	-	-	-		

Web Appendix 2. Nicotine use before imprisonment

Nicotine use before imprisonment was reported for 21 samples from 14 LMIC (24, 25, 27, 29, 33, 40-42, 61, 63, 78, 80, 82-87). The prevalence of nicotine use before imprisonment ranged from 33% to 93% (Web Figure 6). The heterogeneity between the studies was high ($I^2 = 98.5\%$; P < 0.001). Pooled rates indicate a prevalence of 70% (95% CI: 64, 76) for people in LMIC prisons. Nicotine use before imprisonment was significantly more frequent in imprisoned men ($\beta = 0.21$; P = 0.04) as compared to women and in Europe (82%; $\beta = 0.278$; P = 0.009) as compared to Africa (Web Table 3).

Web Appendix 3. Alcohol use before imprisonment

The prevalence rates of alcohol use before imprisonment were reported from 23 samples in 14 LMIC (24, 29, 33, 41, 44-47, 50, 51, 55, 61, 72, 75, 77, 78, 80-84). The prevalence of alcohol use before imprisonment ranged from 33% in Iran to 94% in Hungary ($I^2 = 99.2\%$; P<0.001). The pooled prevalence of alcohol use before imprisonment was 71% (95% CI: 63, 78) for people imprisoned in LMIC (Web Figure 7). There were significant differences in the prevalence of alcohol use with respect to WHO-regions: lower rates in the Eastern Mediterranean (37%; $\beta = -0.278$; P = 0.009) and higher rates in Europe (85%; $\beta = 0.151$; P = 0.05) as compared to Africa (Web Table 4).

Web Appendix 4. Illicit drug use before imprisonment

There were 50 samples from 21 LMIC reporting prevalence estimates for illicit drug use before imprisonment (26, 27, 29, 34, 35, 38, 41, 42, 45, 47, 49, 51, 52, 54, 55, 58-61, 63-65, 67, 69, 71, 72, 77, 78, 80, 82, 84-98). Estimates for illicit drug use during imprisonment ranged from 9% for men imprisoned in China to 93% for men imprisoned in Iran (Web Figure 8). The heterogeneity between the studies was high ($I^2 = 99.6\%$; *P*<0.001). Pooled rates of illicit drug use during imprisonment indicate a prevalence of 48% (95% CI: 41, 55) in LMIC. Meta-regression analyses did not show any significant association between study characteristics and illicit drug use before imprisonment (Web Table 5).

Web Appendix 5. Cannabis use before imprisonment

Prevalence estimates of cannabis use before imprisonment were reported for 24 samples in 12 LMIC (24, 27, 29, 40, 41, 44, 46, 47, 49-51, 55, 60- 64, 72, 77, 86, 99). Prevalence estimates for cannabis use before imprisonment ranged from 9% to 69% (Web Figure 9). The heterogeneity between the studies was high (I^2 = 99.6%; *P*<0.001). Pooled rates indicate a prevalence of 37% (95% CI: 28, 47) for cannabis use before imprisonment in LMIC. Study characteristics did not associate with cannabis use before imprisonment (Web Table 6).

Web Appendix 6. Cocaine use before imprisonment

Prevalence estimates of cocaine use during imprisonment were reported for 24 samples in 10 LMIC (24, 27, 40, 41, 44, 46, 47, 49, 51, 54, 55, 60-64, 72, 77, 86, 99, 100). Prevalence estimates for cocaine use during imprisonment ranged from 1% to 52% (Web Figure 10). The heterogeneity between the studies was high ($I^2 = 99.4\%$; *P*<0.001). Pooled rates indicate that 23% (95% CI: 16, 30) of the people used cocaine before imprisonment in LMIC. Imprisoned women had higher rates cocaine use before imprisonment than imprisoned men ($\beta = -0.230$, *P* = 0.01). The prevalence of cocaine use was significantly higher in the Americas (41.8%, $\beta = 0.345$, *P* < 0.001) and in Europe (22.9%, $\beta = 0.105$, *P* = 0.03) as compared to Africa (Web Table 7).

Web Appendix 7. Opiate use before imprisonment

Prevalence estimates of opiate use before imprisonment were reported for 37 samples in 22 LMIC (24, 26, 27, 29, 38, 40, 41, 44, 47, 49-52, 58, 60-64, 69, 71, 72, 76, 82, 83, 87, 94-96, 101-103). Prevalence estimates for opiate use before imprisonment ranged from 1% to 39% (Web Figure 11). The heterogeneity between the studies was high ($I^2 = 99.3\%$; P < 0.001). Pooled rates indicate a prevalence of 10% (95% CI: 3, 11) for opiate use before imprisonment in LMIC. The opiate use before imprisonment was positively associated with the non-response rate ($\beta = 0.003$, P = 0.005). Rates of opiate use before imprisonment were significantly higher in the Eastern Mediterranean Region (18.1%, $\beta = 0.178$, P = 0.006) and in Europe (15.5%, $\beta = 0.133$, P = 0.02) (Web Table 8).

Web Appendix 8. Injection drug use before imprisonment

Estimates for injection drug use before imprisonment were reported for 55 samples from 27 LMIC (26, 27, 29, 32, 35, 38, 40, 41, 44-48, 50, 52, 54, 57, 59, 63, 66, 68-77, 81-83, 85, 87, 89, 91, 93-97, 99-106). Estimates for injection drug use before imprisonment ranged from 0% to 49% (Web Figure 12). The heterogeneity between the studies was high ($I^2 = 99.3\%$; *P*<0.001). Pooled rates indicated a prevalence of

10% (95% CI: 7, 13) for injection drug use before imprisonment in LMIC. Injection drug use was significantly more frequent in the Americas (9.2%, $\beta = 0.094$, P = 0.05), in the Eastern Mediterranean Region (15.7%, $\beta = 0.167$, P = 0.003) and in Europe (18.5%, $\beta = 0.195$, P = <0.001) as compared to Africa (Web Table 9).



Web Figure 6. Prevalence of nicotine use before imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. CI, confidence interval; PGN, Papua New Guinea; PR, prevalence rate.



Web Figure 7. The prevalence of alcohol use before imprisonment in people who are imprisoned in lowand middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. CI, confidence interval; PGN, Papua New Guinea; PR, prevalence rate.

Region and First Author, Year (Reference No.)	Country	Sex		PR (95% CI)
Africa Olubodun, 1996 (80) Akeke, 2009 (45) Adesokan, 2014 (88) Subtotal	Nigeria Leshoto Nigeria	Male Male Male		34.6 (25.1, 45.4) 45.5 (37.0, 54.3) 56.7 (49.1, 64.1) 46.0 (33.9, 58.4)
Americas Bautista-Arredondo, 2015 (27) Ferreira, 1996 (89) Canazaro, 2010 (55) Miranda, 2000 (77) Santos Barros, 2013 (90) Güereña Burgueño, 1992 (34) Monsalve-Castillo, 2009 (91) Belaunzaran-Zamudio, 2017 (47) Bautista-Arredondo, 2015 (27) Cravioto, 2003 (67) Santos, 2011 (72) De Navarro, 2016 (85) Silva, 2014 (86) Marins, 2000 (92) El Maerrawi, 2015 (54) Coelho, 2009 (93) Subtotal	Mexico Brazil Brazil Brazil Mexico Venezuela Mexico Mexico Mexico Brazil Brazil Brazil Brazil Brazil Brazil Brazil	Female Female Female Female Male Male Male Male Male Female Male Male Male Male Male		$\begin{array}{c} 40.6 & (36.4, 44.9) \\ 47.7 & (42.5, 52.9) \\ 54.4 & (48.6, 60.0) \\ 54.5 & (45.7, 63.1) \\ 56.8 & (48.7, 64.5) \\ 58.8 & (54.0, 63.4) \\ 60.0 & (53.1, 66.5) \\ 60.2 & (58.2, 62.3) \\ 61.7 & (59.5, 63.8) \\ 69.8 & (67.0, 72.3) \\ 73.7 & (69.3, 77.7) \\ 75.0 & (72.4, 77.4) \\ 75.8 & (59.0, 87.2) \\ 78.2 & (75.4, 80.8) \\ 80.4 & (76.9, 83.5) \\ 90.1 & (86.4, 92.9) \\ 65.4 & (59.4, 71.2) \end{array}$
Eastern Mediterranean Nokhodian, 2012 (94) UNODC, 2010 (74) Khajedaluee, 2016 (82) Ziaee, 2014 (95) Mamani, 2016 (87) Zamani, 2010 (59) Subtotal	Iran Afghanistan Iran Iran Iran Iran	Female Male Mixed Mixed Male Male		30.1 (23.5, 37.5) 54.3 (44.2, 64.1) 54.4 (51.5, 57.3) 64.5 (61.3, 67.6) 75.7 (73.2, 78.0) 93.1 (88.8, 95.8) 63.6 (50.0, 76.2)
Europe Winetsky, 2014 (26) Ksel, 2010 (78) RMCDD, 2007 (49) Sieminska, 2006 (42) Burek, 2010 (96) Elekes, 1997 (61) RMCDD, 2011 (60) Burek, 2010 (96) Narkauskaite, 2007 (35) Elekes, 2004 (61) Azbel, 2015 (97) Ravlija, 2014 (52) Sieroslawski, 2007 (63) Narkauskaite, 2007 (35) Snikere, 2003 (64) Hodzic, 2017 (69) Narkauskaite, 2010 (35) Snikere, 2008 (65) Subtotal	Tajikistan Poland Romania Poland Croatia Hungary Romania Croatia Lithuania Lithuania B&H Poland Lithuania Latvia B&H Lithuania Latvia Kyrgyzstan	Male Male Male Female Male Male Male Mixed Male Male Male Male Male Male Male Male		$\begin{array}{c} 12.2 \ (10.6, 14.1) \\ 13.7 \ (12.0, 15.7) \\ 18.5 \ (17.2, 19.9) \\ 20.8 \ (18.3, 23.6) \\ 21.8 \ (16.5, 28.2) \\ 22.1 \ (19.6, 24.8) \\ 25.6 \ (23.7, 27.5) \\ 26.2 \ (24.7, 27.8) \\ 31.3 \ (21.5, 43.2) \\ 31.3 \ (21.5, 43.2) \\ 31.5 \ (28.0, 35.3) \\ 33.1 \ (29.2, 37.3) \\ 37.3 \ (33.5, 41.1) \\ 48.9 \ (46.1, 51.7) \\ 49.9 \ (47.0, 52.8) \\ 53.0 \ (51.2, 54.8) \\ 53.5 \ (46.6, 60.3) \\ 57.7 \ (46.2, 68.5) \\ 61.1 \ (58.9, 63.3) \\ 85.6 \ (83.2, 87.6) \\ 36.3 \ (27.2, 45.9) \end{array}$
South-East Asia Math, 2011 (29) Blogg, 2014 (71) Blogg, 2014 (71) Subtotal	India Indonesia Indonesia	Male Male Female	*	13.0 (12.1, 13.9) 37.2 (34.1, 40.4) 41.3 (36.6, 46.2) 29.4 (11.0, 52.3)
Western Pacific Zhang, 2010 (84) Zhang, 2010 (84) Zhu, 2017 (98) Subtotal	China China China	Male Female Female	*	9.3 (6.5, 13.0) 21.4 (16.3, 27.6) 25.9 (24.3, 27.6) 18.3 (8.7, 30.5)
Overall ($I^2 = 99.6\%$, $P < 0.001$)			-	47.7 (40.8, 54.8)
			0 20 40 60 80 10 Prevalence Rate	l 00 2

Web Figure 8. The prevalence of illicit drug use before imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. B&H, Bosnia and Herzegovina; CI, confidence interval; PR, prevalence rate.

Region and First Author, Year (Reference No.)	Country	Sex	PR (95% CI)
Africa			
Kinyanjui, 2013 (24)	Kenya	Mixed	21.0 (17.3, 25.3)
Jaquet, 2016 (40)	Togo	Male	22.2 (18.1, 26.9)
Adesanya, 1997 (44)	Nigeria	Male	33.9 (29.4, 38.7)
Jaquet, 2016 (40)	Senegal	Male	45.9 (40.7, 51.3)
Subtotal			30.3 (19.9, 41.9)
Americas			1
Bautista-Arredondo, 2015 (27)	Mexico	Female	28.1 (24.4, 32.1)
Belaunzaran-Zamudio, 2017 (47)	Mexico	Mixed	40.6 (38.6, 42.7)
De Carvalho, 2006 (46)	Brazil	Female	43.2 (34.8, 52.0)
Canazaro, 2010 (55)	Brazil	Female	47.0 (41.3, 52.8)
Miranda, 2000 (77)	Brazil	Female	47.9 (39.2, 56.8)
Bautista-Arredondo, 2015 (27)	Mexico	Male	₩ 49.1 (46.9, 51.3)
Strazza, 2004 (99)	Brazil	Female	56.2 (50.5, 61.8)
De Carvalho, 2006 (46)	Brazil	Male	★ 61.6 (59.4, 63.8)
Silva, 2014 (86)	Brazil	Female	63.6 (46.6, 77.8)
Santos, 2011 (72)	Brazil	Mixed	68.7 (64.1, 73.0)
Subtotal			50.2 (42.5, 57.9)
Europe			1
RMCDD, 2011 (60)	Romania	Male	● 9.4 (8.2, 10.7)
RMCDD, 2007 (49)	Romania	Male	● 9.6 (8.6, 10.7)
Elekes, 1997 (41)	Hungary	Male	◆ 10.7 (8.9, 12.9)
Elekes, 2004 (61)	Hungary	Male	26.3 (22.9, 29.9)
Weilandt, 2007 (50)	Armenia	Male	34.7 (30.8, 38.8)
Sieroslawski, 2001 (62)	Poland	Male	★ 38.7 (36.0, 41.5)
Sieroslawski, 2007 (63)	Poland	Male	◆ 43.1 (40.3, 45.8)
Snikere, 2003 (64)	Latvia	Mixed	★ 51.0 (49.2, 52.8)
Snikere, 2010 (51)	Latvia	Mixed	★ 60.6 (58.4, 62.7)
Subtotal			29.9 (16.2, 45.7)
South-East Asia			
Math, 2011 (29)	India	Male	• 12.2 (11.4, 13.2)
Overall ($I^2 = 99.6\%$, $P < 0.001$)			37.3 (28.4, 46.6)
) 20 40 60 80
			Prevalence Rate

Web Figure 9. Random effects meta-analyses for the prevalence of cannabis use before imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. CI, confidence interval; PR, prevalence rate.



Web Figure 10. Random effects meta-analyses for the prevalence of cocaine use before imprisonment in low- and middle-income countries by WHO-Region, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. CI, confidence interval; PR, prevalence rate.

Region and First Author, Year (Reference No.)	Country	Sex		PR (95% CI)
Africa				
Iaquet 2016 (40)	Togo	Male	i i	0.6(0.2, 2.1)
Jaquet 2016 (40)	Senegal	Male		0.6(0.2, 2.1)
Kinyaniui 2013 (24)	Kenya	Mixed	I = 1	13(05,29)
Adesanya 1997 (44)	Nigeria	Male		78(56,109)
Subtotal	INIgeria	Wale		1.0(0.1, 5.5)
Subtotal				1.9 (0.1, 5.5)
Americas				
Santos, 2011 (72)	Brazil	Mixed	₽ 1	0.5 (0.1, 1.7)
Bautista-Arredondo, 2015 (27)	Mexico	Female	•	1.2 (0.5, 2.5)
Bautista-Arredondo, 2015 (27)	Mexico	Male		2.2 (1.6, 2.9)
Belaunzaran-Zamudio, 2017 (47)	Mexico	Mixed		5.6 (4.8, 6.7)
Subtotal				2.1 (0.5, 4.6)
Eastern Mediterranean				
Nokhodian, 2012 (94)	Iran	Female	l	3.1(1.3,7.0)
Mohamed. 2013 (101)	Egypt	Mixed	- e i	8.4 (6.3, 11.2)
Khaiedaluee, 2016 (82)	Iran	Mixed		10.0 (8.3, 11.9)
Kazi, 2010 (83)	Pakistan	Male		137(106,177)
Mamani, 2016 (87)	Iran	Male		17.1(15.0, 19.3)
UNODC, 2010 (74)	Afghanistan	Male		304(220405)
Ziaee, 2014 (95)	Iran	Mixed	· · ·	36.4(22.0, 40.0)
Memon. 2012 (102)	Pakistan	Male		30.0(37.1,41.1)
Subtotal	1 akistali	whate		$=$ $\frac{39.0}{(37.1, 41.1)}$ 18.1 (9.4, 28.9)
Europe				
Europe Elekos $1007(41)$			- I	
$W_{instelly} = 2014 (26)$	Hungary	Male		3.0 (2.1, 4.3)
Flakes $2004 (61)$	Tajikistan	Male		4.2 (3.2, 5.4)
Signalawski $2007 (63)$	Hungary	Male		5.7 (4.2, 7.9)
BMCDD 2007 (40)	Poland	Male		8.4 (7.0, 10.1)
Sigreglawski $2001(43)$	Romania	Male		8.4 (7.5, 9.4)
PMCDD 2011 (50)	Poland	Male	-	9.5 (8.0, 11.3)
Woilandt $2007(50)$	Romania	Male	T	11.7 (10.4, 13.1)
$P_{\rm evilia} = 2014 (52)$	Armenia	Male		15.7 (12.9, 19.0)
Raviija, $2014(52)$	B&H	Male		17.3 (14.5, 20.4)
$S_{\rm miles} = 2002 (64)$	Croatia	Female		19.1 (14.2, 25.4)
Sinkere, $2005(04)$	Latvia	Mixed	-	24.0 (22.5, 25.6)
Durek, 2010 (90)	Croatia	Male	I	24.7 (23.2, 26.2)
Hodzic, $2017(69)$	B&H	Male		28.5 (22.7, 35.1)
Azbel, 2010 (105)	Kyrgyzstan	Mixed		28.8 (24.4, 33.6)
Shikere, $2010(51)$	Latvia	Mixed	-	29.4 (27.4, 31.5)
Narkauskaite, 2010 (38)	Lithuania	Female		33.8 (23.9, 45.4)
Subtotal				15.5 (10.9, 20.6)
South-East Asia				
Math, 2011 (29)	India	Male	i i	0.6 (0.4, 0.9)
Niriella, 2015 (104)	Sri Lanka	Female	••!	2.9 (0.8, 10.1)
Niriella, 2015 (104)	Sri Lanka	Male	_ 	4.6 (2.8, 7.5)
Blogg, 2014 (71)	Indonesia	Female	•	6.2 (4.2, 9.0)
Blogg, 2014 (71)	Indonesia	Male	-#	8.3 (6.7, 10.3)
Subtotal				4.0 (0.6, 9.9)
Overall ($I^2 = 99\%$, $P < 0.001$)				10.4 (7.0, 14.4)
			0 10 20 30	40 50
			Provalance Data	
			r levalence Kale	

Web Figure 11. Random effects meta-analyses for the prevalence of opiate use before imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. B&H, Bosnia and Herzegovina; CI, confidence interval; PR, prevalence rate.

Region and First Author, Year (Reference No.)	Country	Sex		PR (95% CI)
Africa Vaz, 1995 (66) Vaz, 1995 (66) Adesanya, 1997 (44) Adoga, 2009 (75) Jaquet, 2016 (40) Jaquet, 2016 (40) Akeke, 2009 (45) Subtotal	Mozambique Mozambique Nigeria Nigeria Togo Senegal Leshoto	Male Female Male Male Male Male Male	* * *	$\begin{array}{c} 0.0 \ (0.0, \ 0.3) \\ 0.0 \ (0.0, \ 0.6) \\ 0.0 \ (0.0, \ 1.0) \\ 0.0 \ (0.0, \ 1.3) \\ 0.6 \ (0.2, \ 2.1) \\ 0.6 \ (0.2, \ 2.2) \\ 3.3 \ (1.3, \ 8.1) \\ 0.2 \ (0.0, \ 0.8) \end{array}$
Americas De Navarro, 2016 (85) De Albuquerque, 2014 (100) Bautista-Arredondo, 2015 (27) Santos Barros, 2013 (90) De Carvalho, 2006 (46) Bautista-Arredondo, 2015 (27) El Maerrawi, 2015 (54) Monsalve-Castillo, 2009 (91) Falquetto, 2013 (81) Strazza, 2004 (99) Coelho, 2009 (93) Belaunzaran-Zamudio, 2017 (47) Santos, 2011 (72) De Carvalho, 2006 (46) Miranda, 2000 (77) Macri Troya, 2010 (73) Güereña Burgueño, 1992 (34) Massad, 1999 (105) Marins, 2000 (92) Ferreira, 1996 (89) Subtotal	Brazil Brazil Mexico Brazil Mexico Brazil Venezuela Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil Brazil	Male Female Female Male Male Mixed Female Mixed Female Female Male Male Male Male Female		$\begin{array}{c} 2.7 \ (1.9, 3.8) \\ 3.3 \ (2.4, 4.5) \\ 3.5 \ (2.2, 5.4) \\ 4.1 \ (1.9, 8.6) \\ 5.0 \ (4.1, 6.1) \\ 5.3 \ (3.7, 7.5) \\ 6.0 \ (3.5, 10.2) \\ 6.2 \ (4.6, 8.1) \\ 8.3 \ (5.6, 12.0) \\ 8.7 \ (6.1, 12.2) \\ 9.2 \ (8.1, 10.5) \\ 10.2 \ (7.7, 13.4) \\ 10.4 \ (6.2, 17.0) \\ 10.7 \ (6.4, 17.5) \\ 15.1 \ (11.5, 19.7) \\ 20.7 \ (17.1, 24.9) \\ 21.6 \ (18.5, 24.9) \\ 22.2 \ (19.6, 25.0) \\ 22.9 \ (18.8, 27.5) \\ 9.2 \ (6.6, 12.1) \end{array}$
Eastern Mediterranean Nokhodian, 2012 (94) Ziaee, 2014 (95) Mohamed, 2013 (101) Khajedaluee, 2016 (82) Kazi, 2010 (83) Navadeh, 2013 (68) Mamani, 2016 (87) Memon, 2012 (102) Zamani, 2010 (59) Subtotal	Iran Iran Egypt Iran Pakistan Iran Iran Pakistan Iran	Female Mixed Mixed Male Male Male Male Male		$\begin{array}{c} 3.1 \ (1.3, 7.0) \\ 6.7 \ (5.2, 8.5) \\ 8.4 \ (6.3, 11.2) \\ 10.0 \ (8.3, 11.9) \\ 13.7 \ (10.6, 17.7) \\ 16.0 \ (15.0, 17.1) \\ 17.1 \ (15.0, 19.3) \\ 39.0 \ (37.1, 41.1) \\ 42.4 \ (35.8, 49.2) \\ 15.7 \ (8.9, 23.8) \end{array}$
Europe Sieroslawski, 2007 (63) Elekes, 1997 (41) Winetsky, 2014 (26) Weilandt, 2007 (50) Ravlija, 2014 (52) Burek, 2010 (96) Snikere, 2003 (64) Burek, 2010 (96) Hodzic, 2017 (69) Azbel, 2016 (76) Azbel, 2015 (97) Narkauskaite, 2010 (38) Azbel, 2013 (103) Subtotal	Poland Hungary Tajikistan Armenia B&H Croatia Latvia Croatia B&H Kyrgyzstan Azerbaijan Lithuania Ukraine	Male Male Male Male Female Mixed Male Mixed Mixed Female Mixed		$\begin{array}{c} 0.7 \ (0.3, 1.3) \\ 1.2 \ (0.6, 2.1) \\ 4.2 \ (3.2, 5.4) \\ 13.3 \ (10.7, 16.4) \\ 17.3 \ (14.5, 20.4) \\ 19.1 \ (14.2, 25.4) \\ 24.0 \ (22.5, 25.6) \\ 24.7 \ (23.2, 26.2) \\ 28.5 \ (22.7, 35.1) \\ 29.6 \ (25.2, 34.5) \\ 31.6 \ (27.7, 35.7) \\ 33.8 \ (23.9, 45.4) \\ 48.8 \ (43.9, 53.6) \\ 18.5 \ (10.8, 27.9) \end{array}$
South-East Asia Math, 2011 (29) Niriella, 2015 (104) Niriella, 2015 (104) Blogg, 2014 (71) Blogg, 2014 (71) Subtotal	India Sri Lanka Sri Lanka Indonesia Indonesia	Male Female Male Female Male		$\begin{array}{c} 0.2 \ (0.1, \ 0.3) \\ 2.9 \ (0.8, \ 10.1) \\ 4.6 \ (2.8, \ 7.5) \\ 6.2 \ (4.2, \ 9.0) \\ 8.3 \ (6.7, \ 10.3) \\ 3.8 \ (0.2, \ 10.6) \end{array}$
Western Pacific Zhang, 2012 (106)	China	Male	•	1.9 (1.6, 2.1)
Overall ($I^2 = 99\%$, $P < 0.001$)			0 10 20 30 40 50 60 Prevalence Rate	9.5 (6.7, 12.7)

Web Figure 12: Random effects meta-analyses for the prevalence of injection drug use before imprisonment in low- and middle-income countries by regions as defined by the World Health Organization, 1987-2017. The dashed line indicates the overall pooled random effects prevalence. B&H, Bosnia and Herzegovina; CI, confidence interval; PR, prevalence rate.

Web Table 10. Samples reporting the prevalence of substance use for people imprisoned in low- and middle-income countries, 1987-2017. N.r., not reported.

First Author, Year (Reference No.)	Year of data collection (final)	Sex	Region (according to the WHO)	Country	Sample size	Non-response rate (%)	Mean Age (years)
Adesanya, 1997 (44)	1995	Male	Africa	Nigeria	395	4.8	30.4
Adesokan, 2014 (88)	2013	Male	Africa	Nigeria	164	n.r.	n.r.
Adoga, 2009 (75)	2007	Male	Africa	Nigeria	300	n.r.	29.2
Akeke, 2009 (45)	n.r.	Male	Africa	Leshoto	123	11.0	n.r.
Amdzaranda, 209 (23)	2006	Male	Africa	Nigeria	303	13.9	31.2
Azbel, 2013 (104)	2011	Mixed	Europe	Ukraine	402	5.6	31.9
Azbel, 2015 (97)	2014	Mixed	Europe	Azerbaijan	510	4.7	38.2
Azbel, 2016 (76)	2014	Mixed	Europe	Kyrgyzstan	368	3.4	37.4
Bautista-Arredondo, 2015 (27)	2010	Male	Americas	Mexico	1934	1.1	33.8
Bautista-Arredondo, 2015 (27)	2010	Female	Americas	Mexico	520	2.8	34.9
Belaunzaran-Zamudio, 2017 (47)	2012	Mixed	Americas	Mexico	2218	48.0	n.r.
Blogg, 2014 (71)	2010	Male	South-East Asia	Indonesia	900	6.0	32.0
Blogg, 2014 (71)	2010	Female	South-East Asia	Indonasia	402	5.0	34.0
Burek, 2010 (96)	2007	Female	Europe	Croatia	188	24.7	32.0
Burek, 2010 (96)	2007	Male	Europe	Croatia	3160	33.5	32.0
Canazaro, 2010 (55)	2008	Female	Americas	Brazil	287	22.0	33.4
Coelho, 2009 (93)	2003	Male	Americas	Brazil	333	n.r.	30.1
Cravioto, 2003 (67)	2000	Male	Americas	Mexico	1151	4.7	n.r.
Dadi, 2016 (39)	2015	Mixed	Africa	Ethiopia	649	7.3	30.6
De Albuquerque, 2014 (100)	2011	Male	Americas	Brazil	1097	0.3	28.6
De Carvalho, 2006 (46)	1998	Male	Americas	Brazil	1914	n.r.	30.1

De Carvalho, 2006 (46)	1998	Female	Americas	Brazil	125	n.r.	32.9
De Navarro, 2016 (85)	2013	Male	Americas	Brazil		25.0	29.0
Diendere, 2011 (57)	2009	Male	Africa	ca Burkina Faso í		n.r.	30.1
El Maerrawi, 2015 (54)	2007	Male	Americas	Brazil	546	16.0	29.8
Elekes, 1997 (41)	1997	Male	Europe	Hungary	951	4.9	n.r.
Elekes, 2004 (61)	2004	Male	Europe	Hungary	609	0.0	34.5
Falquetto, 2013 (81)	2010	Mixed	Americas	Brazil	730	18.5	n.r.
Ferreira, 1996 (89)	1993	Female	Americas	Brazil	350	7.4	29.0
Gould, 2011 (33)	2010	Male	Western Pacific	Papua New Guinea	148	41.7	31.0
Güereña Burgueño, 1992 (34)	1988	Male	Americas	Mexico	410	2.0	29.0
Hodzic, 2017 (69)	2013	Male	Europe	Bosnia and Herzegovina	200	73.9	32.3
Hussain, 2003 (28)	2001	Male	Eastern Mediterranean	Pakistan	425	0.0	34.8
Iqbal, 2012 (43)	2006	Male	Eastern Mediterranean	Pakistan	100	0.0	35.0
Jaka, 2014 (30)	2013	Mixed	Europe	Albania	401	n.r.	31.4
Jaquet, 2016 (40)	2013	Male	Africa	Togo	347	13.6	30.0
Jaquet, 2016 (40)	2014	Male	Africa	Senegal	333	13.6	30.0
Kazi, 2010 (83)	2008	Male	Eastern Mediterranean	Pakistan	364	5.2	27.0
Khajedaluee, 2016 (82)	2008	Mixed	Eastern Mediterranean	Iran	1114	5.2	35.1
Khan, 2009 (32)	2008	Male	Eastern Mediterranean	Pakistan	250	n.r.	44.0
Kinyanjui, 2013 (24)	2011	mixed	Africa	Kenya	395	n.r.	33.3
Ksel, 2010 (78)	2003	Male	Europe	Poland	1305	n.r.	n.r.
Macri Troya, 2010 (73)	2005	Male	Americas	Uruguay	291	0.0	29.6
Mamani, 2016 (87)	2013	Male	Eastern Mediterranean	Iran	1208	51.7	n.r.
Marins, 2000 (92)	1995	Male	Americas	Brazil	914	13.7	29.0

Massad, 1999 (105)	1994	Male	Americas	Brazil	631	5.5	30.8
Math, 2011 (29)	2009	Male	South-East Asia	India	5024	3.4	30.7
Memon, 2012 (102)	2008	Male	Eastern Mediterranean	Eastern Pakistan 2 Mediterranean		n.r.	42.5
Miranda, 2000 (77)	1997	Female	Americas	Brazil	121	0.8	30.2
Mohamed, 2013 (101)	n.r.	Mixed	Eastern Mediterranean	Egypt	500	n.r.	41.0
Moller, 2008 (65)	2005	Male	Europe	Kyrgyzstan	1004	1.0	32.6
Monsalve-Castillo, 2009 (91)	n.r.	Male	Americas	Venezuela	200	n.r.	31.6
Naik, 2014 (37)	n.r.	Male	South-East Asia	India	1600	0.0	n.r.
Narkauskaite, 2007 (35)	2003	Male	Europe	Lithuania	1122	86.5	27.8
Narkauskaite, 2007 (35)	2003	Female	Europe	Lithuania	67	86.5	34.4
Narkauskaite, 2010 (38)	2009	Female	Europe	Lithuania	71	72.2	34.0
Navadeh, 2013 (68)	2009	Male	Eastern Mediterranean	Iran	4536	17.9	n.r.
Nevárez-Sida, 2012 (53)	2006	Mixed	Americas	Mexico	1223	10.0	n.r.
Niriella, 2015 (103)	n.r.	Male	South-East Asia	Sri Lanka	325	0.8	42.0
Niriella, 2015 (103)	n.r.	Female	South-East Asia	Sri Lanka	68	0.8	42.0
Nokhodian, 2012 (94)	2009	Female	Eastern Mediterranean	Iran	163	0.0	34.5
Olubodun, 1996 (80)	n.r.	Male	Africa	Nigeria	81	3.6	27.7
Puga, 2017 (48)	2014	Male	Americas	Brazil	2848	10.7	31.6
Puga, 2017 (48)	2014	Female	Americas	Brazil	520	10.7	31.1
Quitete, 2012 (31)	n.r.	Female	Americas	Brazil	134	3.6	31.5
Ravlija, 2014 (52)	2011	Male	Europe	Bosnia and Herzegovina	620	n.r.	34.0
Reed, 2009 (56)	n.r.	Female	Americas	Brazil	377	27.3	n.r.
Romanian Monitoring Centre for Drugs and Drug Addiction (RMCDD), 2007 (49)	2010	Male	Europe	Romania	2064	n.r.	n.r.

Romanian Monitoring Centre for Drugs and Drug Addiction (RMCDD), 2011 (60)	2006	Male	Europe Romania		3218	n.r.	n.r.
Santos, 2011 (72)	2010	Mixed	Americas	Brazil	422	18.7	32.7
Santos Barros, 2013 (90)	2008	Female	Americas	Brazil	148	1.3	n.r.
Sawitri, 2016 (70)	2009	Male	South-East Asia	Indonesia	200	n.r.	32.8
Sawitri, 2016 (70)	2009	Female	South-East Asia	Indonesia	300	n.r.	32.8
Sieminska, 2006 (42)	n.r.	Male	Europe	Poland	907	0.0	32.3
Sieroslawski, 2001 (62)	2001	Male	Europe	Poland	1189	n.r.	n.r.
Sieroslawski, 2007 (63)	2007	Male	Europe	Poland	1240	11.9	n.r.
Silva, 2014 (86)	2013	Female	Americas	Brazil	33	26.6	n.r.
Sniķere, 2003 (64)	2003	Mixed	Europe	Latvia	2867	38.8	n.r.
Sniķere, 2010 (51)	2010	Mixed	Europe	Latvia	1965	56.9	31.7
Strazza, 2004 (99)	2000	Female	Americas	Brazil	290	3.0	31
Tiwari, 2014 (25)	n.r.	Mixed	South-East Asia	India	506	41.5	35.8
Turan, 2015 (36)	2013	Male	Europe	Turkey	109	13.5	37.2
United Nations Office on Drugs and Crime (UNODC), 2009 (74)	2008	Mixed	Africa	Uganda	459	8.2	n.r.
United Nations Office on Drugs and Crime (UNODC), 2010 (58)	n.r.	Male	Eastern Mediterranean	Afghanistan	92	n.r.	n.r.
Vaz, 1995 (66)	1991	Male	Africa	Mozambique	1284	43.6	26.2
Vaz, 1995 (66)	1991	Female	Africa	Mozambique	54	27.0	29.2
Weilandt, 2007 (50)	n.r.	Male	Europe	Armenia	542	2.5	33.7
Winetsky, 2014 (26)	2010	Male	Europe	Tajikistan	1317	2.4	36.0
Zamani, 2010 (59)	2007	Male	Eastern Mediterranean	Iran	203	n.r.	34.8
Zhang, 2010 (84)	2006	Male	Western Pacific	China	313	2.0	30.4
Zhang, 2010 (84)	2006	Female	Western Pacific	China	201	2.0	30.5
Zhang, 2012 (106)	2011	Male	Western Pacific	China	12380	n.r.	n.r.
Zhu, 2017 (98)	2013	Female	Western Pacific	China	2709	7.1	n.r.

Ziaee, 2014 (95)	2010	Mixed	Eastern	Iran	881	2.1	34.7
			Mediterranean				

Web Table 11. Pooled **fixed-effects** prevalence estimates of substance use before and during imprisonment in low- and middle-income countries. CI, confidence interval.

Substance	Before imprisonment			During imprisonment		
	Prevalence	Prevalence 95% CI		Prevalence	95%	6 CI
	(%)	Lower	Upper	(%)	Lower	Upper
Nicotine use	70.1	69.5	70.8	56.7	56.2	57.6
Alcohol use	69.5	68.8	70.1	14.0	13.5	14.4
Illicit drug use	40.5	40.0	40.9	23.1	22.6	23.6
Cannabis use	31.0	30.5	31.6	20.5	20.0	21.0
Cocaine use	20.9	20.4	21.4	6.2	5.9	6.5
Opiate use	10.6	10.3	10.9	6.4	6.1	6.7
Injection drug use	7.4	7.2	7.6	1.9	1.7	2.0